

(PCT Article 36 and Rule 70)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/010491

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-35 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-21 _____ received by this Authority on 03.11.2005 with letter of 02.11.2005
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | |
|-----------|--|--------------------|-----|
| 1. | Statement | | |
| | Novelty (N) | Claims <u>1-21</u> | YES |
| | | Claims _____ | NO |
| | Inventive step (IS) | Claims <u>1-21</u> | YES |
| | | Claims _____ | NO |
| | Industrial applicability (IA) | Claims <u>1-21</u> | YES |
| | | Claims _____ | NO |
| 2. | Citations and explanations (Rule 70.7) | | |
| 1 | Reference is made to the following document: | | |
| | D1: WO 96/28483 A (BASF AG; DANISCH PETER (DE); DIX JOHANNES PETER (DE); DENZINGER WALTE) 19 September 1996 (1996-09-19) | | |
| 2 | <u>CLAIMS 1-5</u> | | |
| | Document D1 discloses (see dispersion 3 and test A3, B3 in the table on page 15) aqueous dispersions of a copolymer which is obtained by radical copolymerisation of maleic acid anhydride with a decene oligomer followed by cross-linking with water. The oligomer has an average molecular weight of 340 g/mol and a water content of 76.2%. | | |
| 2.1 | The subject matter of claim 1 thus differs from the known aqueous dispersions in that an isobutene oligomer is used as monomer (B) and in that the copolymer is reacted with a compound Ia or Ib. The subject matter of claim 1 is thus novel (PCT Article 33(2)). | | |

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|-----------|---|
| | <p>The current invention can be considered to address the problem of developing aqueous dispersions which provide leather with improved water repellent finishing and fullness.</p> <p>The solution to this problem as proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons: D1 proposes (see page 3, lines 1-10) that the anhydride groups present in the copolymer may be solvolysed with hydroxy-functional compounds or with amines and that the monomer (B) may be an isobutene oligomer (see page 4, lines 10-12). Nevertheless, D1 does not suggest to a person skilled in the art the combination of monomers (B) and (D) as per the current claim 1, and does not indicate that such a combination leads to improved water repellent finishing and fullness.</p> <p>2.2 Claims 2-5 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.</p> <p>3 <u>CLAIMS 6-15</u></p> <p>Claims 6-15 are characterised by the subject matter of claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.</p> |

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| 4 | <p><u>CLAIMS 16 AND 17</u></p> <p>Document D1 discloses (see dispersion 3 and test A3, B3 in the table on page 15) copolymers which are obtained by radical copolymerisation of maleic acid anhydride with a decene oligomer followed by cross-linking with water.</p> <p>4.1 The subject matter of claim 16 thus differs from the known copolymer in that an isobutene oligomer is used as monomer (B) and in that the copolymer is reacted with a compound Ia or Ib. The subject matter of claim 16 is thus novel (PCT Article 33(2)).</p> <p>The current invention can be considered to address the problem of developing aqueous dispersions which provide leather with improved water repellent finishing and fullness.</p> <p>The solution to this problem as proposed in claim 16 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons: D1 proposes (see page 3, lines 1-10) that the anhydride groups present in the copolymer may be solvolysised with hydroxy-functional compounds or with amines and that the monomer (B) may be an isobutene oligomer (see page 4, lines 10-12). Nevertheless, D1 does not suggest to a person skilled in the art the combination of monomers (B) and (D) as per the current claim 1, and does not indicate that such a</p> |

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| | combination leads to improved water repellent finishing and fullness. |
| 4.2 | Claim 17 is dependent on claim 16 and therefore likewise meets the PCT requirements for novelty and inventive step. |
| 5 | <u>CLAIMS 18-21</u> Claims 18-21 are characterised by the subject matter of claims 1 and 16 and therefore likewise meet the PCT requirements for novelty and inventive step. |